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# Workably competitive outcomes for gas pipelines

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COMPETITION  
ECONOMISTS  
GROUP

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# 1 Executive summary

1. I have been asked to address the following two questions:
  - i. What are the key economic features of a workably competitive market? What economic outcomes would you expect to see in a workably competitive market for the provision of gas pipeline services?
  - ii. Where foundation contracts for the provision of pipeline services have been struck in competitive market conditions, how should the terms of these contracts be taken into account in seeking to determine tariffs for pipeline services that reflect the outcomes of a workably competitive market?

## 1.1 Workable competition

2. The concept of workable competition captures the full range of market interactions that tend to give rise to efficient outcomes, including cost minimisation and product innovation. The concept of ‘workable competition’ is distinguished from abstract textbook concepts such as ‘perfect competition’ which make stylised assumptions that are almost never met in real world markets.
3. Workable competition captures a wide range of market structures, practices and institutions. However, at the core of any workably competitive market is rivalry between multiple actual, or potential, suppliers of products or services. This rivalry creates the impetus/tendency for suppliers to pursue policies that ultimately result in better outcomes for consumers.
4. The only feasible way of organising complex modern economies is via workably competitive markets. The organisational power of workably competitive markets is their ability to decentralise decision making to those ‘at the coal face’ of production and consumption – those with the best understanding of opportunity cost, risk and value. In this way diverse and dispersed information gets distilled into a price signal and a consumption decision – without any single ‘central planner’ understanding/accessing all the relevant information.

## 1.2 Observed competitive outcomes in gas transmission

### 1.2.1 Competition ‘for the market’

5. In the context of this report, competition for the rights to build a pipeline and supply foundation customers is an important example of workable competition. The final price that comes out of this competitive process reflects an average of the competing pipeline builders’ expectations about the costs of everything from steel pipes to construction and volume risks. The competitive process provides the

incentive/necessity for the bidders to arrive at the most accurate possible estimates and to reflect these in their bids.

6. Unless otherwise stated, the use of the term “foundation contract” in this report refers to contracts negotiated in competitive environments such as these. For the absence of doubt, this does not capture situations in which a Government or a single user built a pipeline and subsequently sold contracts for use of the pipeline.
7. Bidding for projects such as these can itself be a very significant cost. By way of example, the opportunity cost to East West Connect of bidding to build the East-West Link motorway in Melbourne was around \$424m and the total cost to the Victorian government of the bidding process was over \$1bn (despite construction never actually beginning on the project).<sup>1</sup>
8. In simple terms, competitive bidding for a major project gives rise to both expensive and intensive assessments of costs and risks and, ultimately, reliable estimates of cost-based prices. By contrast, alternative estimates of cost-based prices derived in some other method, e.g., via a bottom up desktop model of costs built for the purpose of a regulatory process, can never be relied on to accurately synthesise the relevant information in a reliable way.
9. Consistent with this, wherever observations of competitively determined prices for gas transmission are available these should be used as the starting point for an estimate of workably competitive outcomes in gas transmission markets. This means that the terms of foundation contracts should play a critical role in determining contract terms consistent with workably competitive markets. Foundation contracts are set before any sunk construction costs have been incurred and, therefore, before any incumbency advantage exists for a potential pipeline builder.

### **1.2.2 Competition ‘within the market’**

10. There may also be examples of competitively determined prices ‘within the market’ where two or more competing pipelines serve the same destination.

## **1.3 Incorrect critiques of the use of foundation contracts**

11. It has been argued that foundation contracts ‘fully underwrite’ the investment cost of a pipeline and, consequently, once these contracts expire prices should fall to cover only ongoing expenditure on the pipeline. For example, the ACCC has made similar

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<sup>1</sup> Victorian Auditor-General’s Report, East West Link Project, December 2015.

arguments referring to investments that “have been *fully underwritten* by medium - to long-term gas transportation agreements (GTAs) with shippers”<sup>2</sup> (emphasis added).

12. If this were correct, then it would be the case that additional cash-flows above and beyond those generated by foundation contracts would be ‘pure (above normal) profit’ to the existing pipeline owner. However, this must be wrong. To see why, note that this implies that foundation customers are irrational and act against their own interests when signing foundation contracts.
13. At the time of a pipeline’s construction there are strong competitive forces for potential pipeline builders to offer the lowest feasible prices to foundation customers; this is, after all, the basis on which a pipeline operator will win the business to supply those customers. The ACCC recognises the importance of this competition for foundation customers.<sup>3</sup>
14. To the extent that there is any prospect of earning revenues in excess of foundation contracts, the value of this will be, by virtue of the competitive process, passed onto foundation customers in the form of lower prices. A bidder who did not do so, and priced foundation contracts at 100% of the total cost of the pipeline would be profitably undercut by another bidder who offered a lower price to foundation customers on the basis of an expectation of selling some services to non-foundation customers. The operation of competitive forces means that the only reasonable assumption is that the prices for foundation customers reflect the expected level of revenues from future customers (including from foundation customers at the end of the foundation contract).
15. Foundation contracts reflect a competitively determined average price per unit of capacity on a pipeline – both actual foundation contract capacity and expected future sales of capacity above and beyond foundation contract capacity. Prices in foundation contracts are, therefore, a valid competitively determined price for pipeline capacity that reflects the average cost of all capacity expected to be sold (in foundation contracts and otherwise).

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<sup>2</sup> ACCC, Gas Inquiry report, page 8.

<sup>3</sup> ACCC, Gas Inquiry report, page 97.

## 2 Introduction

16. My name is Dr Thomas Hird and I am a Director of CEG Asia Pacific. My qualifications and experience are set out in my curriculum vitae, which is attached to this report. The opinions set out in this report are based on the specialised knowledge that I have acquired from my qualifications as an economist and my experience in the field of regulatory economics.
17. This report has been prepared by CEG for Gilbert and Tobin on behalf of APA. I have been asked by Gilbert and Tobin to address the following two questions:
  - i. What are the key economic features of a workably competitive market? What economic outcomes would you expect to see in a workably competitive market for the provision of gas pipeline services?
  - ii. Where foundation contracts for the provision of pipeline services have been struck in competitive market conditions, how should the terms of these contracts be taken into account in seeking to determine tariffs for pipeline services that reflect the outcomes of a workably competitive market?
18. The remainder of this report has the following structure.
  - section 3 discusses the potential sources of market power in gas transmission and identifies circumstances, including the negotiation of foundation contracts, where workably competitive outcomes in gas transmission can be actually observed;
  - section 4 provides a critique of potential arguments against the use of foundation contracts; and
  - section 5 explains that, even in perfectly competitive markets, firms with low costs can earn high economic rents.
19. I have read the Guidelines for Expert Witnesses in Proceedings of the Federal Court of Australia and confirm that I have made all inquiries that I believe are desirable and appropriate and no matters of significance that I regard as relevant have, to the best of my knowledge, been withheld.



Dr Tom Hird

## 3 Observing competitively negotiated gas transmission contracts

20. Each market has some characteristics that differ from other markets. Consequently, general reasoning about “competitive markets” can lack context in its application to a specific market. For this reason it is necessary to identify conditions under which workably competitive markets for gas transmission contracts exist.

### 3.1 Summary

21. Observed contract prices will reflect workably competitive outcomes where those contract prices were determined in a process that was not unduly influenced by substantial market power.
22. Foundation customers for a new pipeline can, and do, hold a competitive bidding process in order to select the pipeline builder that can offer the best terms (both in terms of prices, non-price terms and expected quality of service). The contracts terms set in those competitive processes are demonstrably workably competitive outcomes. This is true even if a pipeline is a natural monopoly once the pipeline in question is constructed. The foundation contracts on that pipeline are reflective of prices and other terms that were negotiated in a workably competitive environment.
23. Contracts negotiated with an incumbent pipeline owner (i.e., the owner of an already existing pipeline) may be influenced by the exercise substantial market power. This will be the case when all of the following hold true:
  - a. **Lack of existing competitors:** such that the pipeline in question does not currently face competition from other existing pipelines; and
  - b. **Lack of potential competitors:** where economies of scale relative to the size of the market provide the pipeline in question with substantial economies of scale that are unavailable to a new entrant serving a fraction of the market; and
  - c. **Barriers to buyers coordinating to wield countervailing market power:** such that all current users of the pipeline in question face barriers to coordinated sponsoring of a new entrant.
24. The absence of workable competition requires that all of these conditions are met.
25. However, the last of these conditions never holds when foundation contracts are entered into prior to the construction of the pipeline. This is because there is no incumbent. Rather, the foundation customers are selecting an incumbent pipeline owner from all of the possible providers of the service and none of these providers have any incumbency advantage when foundation contracts are being negotiated.



Foundation contracts are, by definition, an example of competition ‘for the market’ and reflect the outcome of a workably competitive process.

26. Other contracts that are negotiated with an incumbent pipeline supplier may, or may not, be the result of a workably competitive process. This will depend on whether necessary conditions a. to c. above hold in the relevant circumstances. However, condition c. never holds in relation to foundation contracts and, therefore, foundation contracts always reflect a competitive process.

### 3.2 What constitutes a workably competitive outcome?

27. The concept of workable competition captures the full range of market interactions that tend to give rise to efficient outcomes, including cost minimisation and product innovation. The concept of ‘workable competition’ is distinguished from abstract textbook concepts such as ‘perfect competition’ which make stylised assumptions that are almost never met in real world markets. For example, perfect competition is generally defined to assume costless market entry and exit, homogenous products, large numbers of buyers and sellers and perfect information.
28. Workable competition, by contrast, captures the range of competitive processes, whatever their exact nature, that are capable of producing efficient outcomes that promote overall welfare. For an industry to be workably competitive these outcomes must be regarded as satisfactory in the sense that the alternatives to competition (e.g., provision by a legislated monopoly) are expected to result in a loss of overall welfare.
29. Workable competition captures a wide range of market structures, practices and institutions. Workably competitive markets evolve and adapt to the specific environment and conditions in which they operate. Two markets may both be workably competitive but the market structure and business practice may vary materially. However, at the core of any workably competitive market is rivalry between multiple actual, or potential, suppliers of products or service.
30. This rivalry creates the impetus/tendency for suppliers to pursue policies that ultimately result in better outcomes for consumers. Rivalry creates an incentive to lower costs or increase quality relative to those of rivals. Rivalry also creates an incentive to lower prices to be closer to costs in order to capture a greater share of the market. In combination, these incentives tend to result in lower (quality adjusted) costs being passed through to customers in lower (quality adjusted) prices.

### 3.3 Demsetz (1986) on the source of market power

31. Monopoly power is typically associated with large economies of scale relative to demand for the service - such that one provider can provide the service at materially

lower cost than multiple providers. There also must typically be material sunk costs<sup>4</sup> of entry - such that 'hit and run' competition from new entrants will not occur whenever the incumbent attempts to set prices materially above costs.

32. However, as Demsetz (1968) noted, economies of scale and the existence of sunk costs are **not sufficient** conditions for the absence of workable competition (i.e., the existence of natural monopoly). Demsetz noted that it must also be the case that customers face **costs in coordinating and bargaining** with a supplier.<sup>5</sup>

*The co-existence of monopoly **power** and monopoly **structure** is possible only if the costs of negotiating are differentially positive, being lower for one set of sellers (or buyers) than it is for rival sellers (or buyers). [Emphasis in the original.]*

33. To illustrate this point concretely consider the above example of an incumbent gas *distribution* pipeline facing the threat of entry. I use gas *distribution* as the relevant example because, as we shall see, the conditions hold less uniformly for gas transmission.
34. If all gas distribution customers can coordinate at low cost they could jointly offer to enter into long term contracts with a potential new entrant provided the new entrant could offer a lower price than the incumbent. The new entrant could capture all economies of scale and could offer some or all of these benefits to customers in the form of lower contracted prices. This threat may then be perceived as credible by the incumbent and prevent the incumbent from pricing materially above cost. This is an example of 'competition for the market' working to constrain outcomes to be consistent with workable competition.
35. However, in reality it would be a very difficult task for a new gas distribution business to 'sign up' all existing gas customers onto new long-term contracts before investing in a new competing gas distribution system. It is this difficulty that ultimately confers

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<sup>4</sup> Sunk costs are costs that are only of value in providing the relevant service they have been incurred to provide (i.e., cannot be avoided if the firm ceases to supply that service). For example, a trench between points A and B used for gas distribution/transmission is a sunk cost (it cannot be moved to supply a service between two other points should the supplier ceases to supply a service between A and B). By contrast, a truck used to perform maintenance functions between points A and B is not a sunk cost because it can be sold/relocated to other activities.

The fact that the infrastructure is long lived and 'sunk' means that, once an incumbent exists, the threat of new entry by a competing supplier may not be credible. This is because a potential new entrant knows that the incumbent will not exit the market if they enter and neither can the entrant decide to 'cut its losses' if entry is not successful (because the infrastructure costs are sunk). Consequently, it is likely that prices will fall post entry and unit costs will rise (due to a loss of economies of scale). If this is the case, then incumbent prices can, absent any other constraints, be set materially above costs without fear of triggering rivalry in the form of new entry.

<sup>5</sup> Harold Demsetz, Why Regulate Utilities?, Journal of Law and Economics, Vol. 11, No. 1, (Apr., 1968), p. 61.

monopoly power on an incumbent. That is, in addition to economies of scale and sunk costs, it is also critical that there are transaction costs in negotiating with existing customers to switch to a new entrant. (Section 3.4.1 discusses why competition for the market is a more credible threat in the context of gas transmission pipelines with a small number of large customers – especially in the context of the competition to build the pipeline in the first place to serve foundation customers.)

36. Thus the key characteristics that prevents the operation of workable competition is the combination of:
- a. **Lack of existing competitors:** such that the pipeline in question does not currently face competition from other existing pipelines; and
  - b. **Lack of potential competitors:** where economies of scale relative to the size of the market provide the pipeline in question with substantial economies of scale that are unavailable to a new entrant serving a fraction of the market; and
  - c. **Barriers to buyers coordinating to wield countervailing market power:** such that all current users of the pipeline in question face barriers to sponsoring of a new entrant (i.e., by switching enough demand to the new entrant so that the new entrant can achieve the necessary scale economies).
37. The absence of workable competition requires that all of these conditions are met.

### 3.4 Foundation contracts reflect, by definition, competition for the market

38. Even where there is only one actual or potential pipeline that can efficiently provide specific services, it is still the case that there will be strong competition between potential owners to win the right to supply foundation contracts (i.e., the right to be the first pipeline to build and operate along that route).
39. Even if, after it is constructed, a gas pipeline satisfies all three necessary conditions set out above, this does not mean that pipeline owner had any market power at the time foundation contracts were entered into. That is, an incumbent pipeline may have market power over customers negotiating contracts after the pipeline has been built. However, foundation contracts are, by definition, negotiated in a context where there is no incumbency advantage because there is no incumbent.

#### 3.4.1 Competition ‘for the market’ is a commonplace workably competitive process

40. There are many markets where, notwithstanding sunk assets and economies of scale, there is still ‘competition for the market’ and workably competitive contract terms can be observed. That is, industries where there is an absence of existing or potential competitors may still be workably competitive given the ability of buyers to

competitively negotiate long term contracts prior to suppliers establishing any incumbency advantage. Such industries include industries where customers seek competition for the supply of infrastructure assets *prior to the assets being sunk* and, in that competitive process, negotiate a long-term contract that governs the actions of the supplier; both in terms of price charged and quantity and quality of supply.

41. In these industries, rivalry between suppliers determines the contractual conditions that will govern the use of the asset in the long term. In this sense, a long-term contract can be considered a competitively determined form of regulation; in contrast to government regulation imposed on suppliers after assets have been sunk/privatised.
42. There are many examples where competitively negotiated long-term contracts govern the supply of services provided by sunk infrastructure assets – from toll roads to contracts that govern the relationship between car dealers and manufacturers (and franchisee and franchisors more generally). Indeed, such competitively negotiated contracts are the norm in markets where material sunk investments are made and where the services provided are specific to serving one, or a small number of, customers who must rely on that service. Long term contracts are necessary in such markets because both the infrastructure investor and the end users are at risk of ‘hold up’ without a long-term contract.<sup>6</sup>

### 3.4.2 Foundation contracts are competition for the market

43. As already noted in section 3.1 above, foundation contracts for gas transmission pipelines offer a classic example of competitive outcomes being determined prior to sunk investments being made. Typically, the need for a new pipeline is identified by stakeholders (governments, shippers and gas producers) and a competitive process is held in order to identify the firm that has the lowest (quality adjusted) cost of providing the service.

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<sup>6</sup> ‘Hold up’ is a term used in the economic literature to describe situations where two (or more) parties make investments that rely on the other party operating in a certain manner. If each party’s obligations are not well specified in a contract this can lead to both parties attempting to extract the value of the other party’s sunk investment by refusing to operate in an efficient manner unless the other party pays them some or all of the economic surplus that would be earned from that investment. For example, consider a railway being built to service a specific mine which is not yet in operation. In the absence of a pre-existing long term contract, the mine owner may refuse to pay the railway owner anything above marginal running costs for using the railway. Similarly, the railway owner may refuse to carry the mine’s commodity unless the railway owner is allowed to extract most of the mine’s profit margin on the commodity. This bargaining dynamic is termed ‘hold up’ in the economics literature and is why the supply of such services tend to be governed by long term contracts entered into prior to the initial investment in sunk infrastructure.

Rogerson (1992) states that: “*The hold-up problem as first described by Klein, Crawford and Alchain (1978) and Williamson (1975, 1977) has come to be accepted by economists as a fundamental determinant of contractual and organisational structure.*” Rogerson, W.P. (1992). Contractual Solutions to the Hold-Up Problem. *The Review of Economic Studies*, 4(59), 777-793.

44. This can include a formal bidding process or an informal commercial negotiation. However, the key point is that at the time of the competitive process none of the potential builders has any market power. First, none of the builders have any sunk investments ‘in the ground’ on the relevant route. Second, even if they did, none of the customers are signed up to use the assets. The customers may, if they wish, negotiate with any potential supplier free from any commitment to another supplier.
45. The contract prices and other terms that come out of this process are, by definition, free from contamination as a result of incumbent pipeline monopoly power because no pipeline (monopoly or otherwise) exists at the time that they are struck. Foundation contracts therefore represent a relatively ‘pure’ source of data on workably competitive outcomes in the gas transmission market.

### 3.5 Non-foundation contracts can also reflect competition for the market

46. The above discussion focusses on foundation contracts because these are clear cut examples where stakeholders hold a competitive process to supply the market. However, these are not necessarily the only circumstances where customers can create circumstances that mimic ‘competition for the market’.

#### 3.5.1 Competition from other pipelines

47. Once a pipeline has been constructed the owner of that pipeline may, or may not, face competitive constraints from other existing pipelines on the sale of ‘new services’ (i.e., above and beyond those contracted for in the competitive process prior to the awarding of the right to construct and operate the pipeline). That is, some destinations will clearly be most efficiently served by a single existing pipeline but other destinations may be large enough to support multiple pipeline suppliers.
48. By way of illustration, consider the Moomba to Sydney pipeline (MSP). The incremental costs of serving relatively small customers along that route, e.g., in Forbes NSW, are low for the MSP once the MSP is built – and materially lower than for a new pipeline. This means that it is (statically) most efficient to have a single supplier of the service at any given time.
49. By contrast, the termination point of the MSP (Sydney) is a large enough demand point that it is viable for it to be served by the MSP, the Eastern Gas Pipeline (EGP) as well as the Victorian Northern Interconnect (connecting to the MSP)). Notably, in 2001 the Australian Competition Tribunal determined that competition with the MSP meant that the EGP pipeline would not have market power and, therefore, should not be a covered gas pipeline under the then Gas Code.<sup>7</sup> Thus, depending on the circumstances,

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<sup>7</sup> Re Duke Eastern Gas Pipeline Pty Ltd [2001] ACompT 2 (4 May 2001). § 134.

some incumbent pipelines may face workably competitive constraints from other pipelines on some or all of the services that they provide.

### 3.5.2 Competition from other energy suppliers

50. Gas transmission pipelines can face competition with electricity as an alternative source of energy for end users. This can lead to competitive constraints on gas transmission pipelines. One example of this is the Carpentaria Gas Pipeline which faced the threat of stranding as a result of its customers switching to electric energy with the potential connection of Mt Isa to the national grid.
51. In response to that threat APA Group, in a consortium with AGL, agreed to use the CGP to supply Xstrata with energy out to 2030. This agreement was struck in October 2011 and in the context of an alternative proposal named 'CopperString' to connect Mt Isa to the National Electricity Market. Success of the alternative project would have substantially stranded the value of the CGP. In March 2011, after APA had opened negotiations but before any contract was signed, APA's CEO, Mick McCormack, was paraphrased in the press as follows:<sup>8</sup>

*The APA Group, which supplies gas to Mount Isa's existing power station, announced in December it would build a new 240 megawatt power station to supply Xstrata's energy needs into the future.*

*The APA chief executive, Mick McCormack, says this is "unashamedly" a defensive move, reflecting concern CopperString would slash demand for gas from APA's Carpentaria Pipeline.*

*"The Carpentaria Pipeline won't make or break APA but, nevertheless, there is significant investment up there and that investment itself was based on commercial underpinnings without any government support at all," he says.*

52. Following the successful negotiation of an energy supply agreement with Xstrata the CopperString project was put on hold and the following statement released.<sup>9</sup>

*In light of the decisions made by the major energy users in Mount Isa to contract their energy requirements with a new build isolated gas fired power station, CopperString is no longer able to justify the significant investment required to develop a transmission line to connect the North West Minerals Province to the National Electricity Market.*

<sup>8</sup> Sydney Morning Herald, "True grit tussle for rich energy dream", Mark Davis, March 26 2011 (accessed 24/2/16). <http://www.smh.com.au/national/true-grit-tussle-for-rich-energy-dream-20110325-1c9yv.html#ixzz414MX7MZA>

<sup>9</sup> <http://www.copperstring.com.au/> accessed on 24 February 2016.

53. It is arguable that the contract struck with Xstrata reflected the outcomes of a workably competitive market even though, at that time, there was no competing route for gas transmission supply to Mt Isa.
54. Similarly, it is conceivable that major shippers could, at the end of their contracted relationship with an existing pipeline, sponsor (or threaten to sponsor) a competing pipeline (not necessarily along an identical route). That is, unlike for gas distribution where there are thousands of small end customers with short term contracts with retailers, a new entrant in gas transmission could deal relatively efficiently with a small number of shippers able to sign long term contracts. This means sponsoring entry is a more viable alternative in gas transmission.
55. Thus, for some customers (and at some times) it may be that the second condition for the existence of monopoly power exists. However, it equally will not be the case for other customers in other circumstances.

## 4 Anticipating objections to the use of foundation contracts

56. This section anticipates and rebuts two possible objections that might be applied to the use of foundation contracts as proxies for workably competitive outcomes. In my view, few, if any, adjustments should be made to observations of competitively determined contract terms. These possible objections are that:
- a. Foundation contracts have already recovered 100% of the initial investment costs of the service and prices under other contracts should be lower to reflect this (assumed) fact; and
  - b. Competitive conditions (cost and/or demand) have changed since the observed competitive contract was negotiated and, therefore, the contract terms need to be adapted to current market conditions.

### 4.1 Do foundation contracts already fully recover initial investment costs?

57. It has been argued that foundation contracts ‘fully underwrite’ the investment cost of a pipeline and, consequently, once these contracts expire prices should fall to be cover only ongoing expenditure on the pipeline. For example, the ACCC has made similar arguments referring to investments that “have been **fully underwritten** by medium - to long-term gas transportation agreements (GTAs) with shippers”<sup>10</sup> (emphasis added). Such a view is consistent with the following quote from the ACCC East Coast Gas Inquiry report.<sup>11</sup>

*As gas flows become more dynamic throughout the east coast the demand for as available, interruptible, backhaul and bi-directional services and other ancillary services is increasing, particularly amongst gas fired generators, LNG projects and producers. Financial data provided by the pipeline operators indicates that this is a growing source of revenue for some pipelines. It is also contributing to a substantial increase in the profitability of those pipelines where the costs **have been underwritten by long-term foundation contracts, because unlike the US where revenue from these services would be used to reduce the firm transportation rate, pipeline operators are retaining the benefit.***

<sup>10</sup> ACCC, Gas Inquiry report, page 8.

<sup>11</sup> ACCC Inquiry report, page 108.



58. In this passage the ACCC implicitly assumes that foundation contracts recover all costs associated with the initial construction and operation of the pipeline and that any positive cash-flow on additional services sold represents pure profit above and beyond a competitive return on investment.
59. The premise of this position is that foundation customers are irrational and act against their own interests when signing foundation contracts. This is clearly an unreasonable assumption for the reasons set out below.<sup>12</sup>
60. At the time of a pipeline's construction there are, as already discussed, strong competitive forces for potential pipeline builders to offer the lowest feasible firm capacity prices to foundation customers; this is, after all, the basis on which a pipeline operator will win the business to supply those customers. The ACCC recognises the importance of this competition in the following passage.<sup>13</sup>

*The outcomes of these two competitive processes suggest that 'competition for the market' can impose an effective constraint on the behaviour of new pipelines. It is important to recognise, however, that the effect of this competitive constraint will dissipate once the new pipeline has been developed, which is why foundation shippers tend to use competitive tension between prospective pipeline operators to negotiate long-term GTAs that protect their investments over the term of the GTA.*

61. However, the ACCC makes a serious error of economics when it presumes that foundation customers 'fully underwrite' a new pipeline and that, therefore, prices above marginal cost are "pure profit" for subsequent customers (including renegotiated prices with foundation customers at the end of the foundation GTA).
62. In order to win the right to build and own the pipeline the successful bidder must offer foundation customers the lowest possible price for their GTA. To the extent that there is any prospect of earning revenues in excess of revenues under the foundation contracts this will be, by virtue of the competitive process, passed onto foundation customers in the form of lower prices. A bidder who did not do so, and priced foundation contracts at 100% of the total cost of the pipeline, could be, and would be, profitably undercut by another bidder who offered a lower price to foundation customers on the basis of an expectation of selling some services to non-foundation customers. The operation of competitive forces means that the only reasonable assumption is that the firm prices for foundation customers are lower by the expected level of revenues from future customers (including from foundation customers at the end of the foundation contract).

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<sup>12</sup> And, even if it were true, it would not alter the fact that a workably competitive market price today would require a return on the forward-looking value of the existing pipeline

<sup>13</sup> ACCC, Gas Inquiry report, page 97.

63. If it were well recognised by all parties that foundation customers fully paid for the pipeline's construction costs then foundation customers would be irrational not to demand the ownership of the pipeline revert to them at the end of the foundation contracts (or, at least, the rights to revenues from other sales on the pipeline are assigned to the foundation customers). After all, if foundation customers had 'fully underwritten' the pipeline construction (in the sense that the ACCC uses the term), they would be giving away value to the prospective pipeline owner by allowing the owner to keep upside from future sales that the pipeline owner does not need justify the investment.
64. This is, of course, not likely to be the case. The reality is that foundation customers, by foregoing the right to own and operate the pipeline, transfer any such upside from themselves to the pipeline owner. However, this will not rationally be transferred for zero compensation. Rather, this transfer will be in return for a guaranteed lower price in their initial GTA. Similarly, if foundation customers really believed that their initial GTA fully 'under wrote' the pipeline costs they would have demanded the right to extend that GTA at marginal cost beyond its termination date and use that right to either serve themselves or other customers. If they instead assigned the rights to revenue from these sales to the pipeline operator then they must have received a lower price in their initial GTA in compensation.

#### 4.1.1 Conclusion

65. Foundation contracts reflect a competitively determined average price per unit of capacity on a pipeline – both actual foundation contract capacity and expected sales of capacity above and beyond foundation contract capacity. Foundation contracts are, therefore, a valid competitively determined price for pipeline capacity that reflects the average cost of all capacity expected to be sold (in foundation contracts and otherwise).
66. Importantly, in the bidding process to determine foundation contracts potential bidders will have expected to recover their full costs via a mix of:
  - a. sales made under foundation contracts; and
  - b. sales made under other contracts.
67. Assuming that the bidders expected to be able to charge the same prices to new and foundation customers, then setting prices for new services based on foundation contract prices is a necessary condition to result in an expectation of full cost recovery (assuming that costs and volumes are as expected at the time of the initial bidding process). It is reasonable to assume that bidders did expect to be able to charge at least as high prices to new customers as they charged to foundation customers given that foundation contracts typically have a 'most favoured nation' clause requiring that any lower prices offered to new customer are also offered to foundation customers.

68. There is no basis for concluding that foundation contracts are ‘special’ and that competitive prices must be expected to fall once those contracts expire (or for new services provided while foundation contracts remain in place).

## 4.2 Adjustments for changed cost/demand conditions

69. Competitively determined prices in foundation contracts reflect the best expectations of costs and volumes over the pipelines’ life at the time of the bidding process. However, it is very possible, and indeed likely, that actual events mean that costs and/or volumes are different to expectations. The question then becomes what, if any, adjustment should be made for this?
70. The first problem that one will face in this context is determining how expectations have changed. Doing so requires one to know what the bidders expected at the time that foundation contracts were struck. However, in reality each bidder would have had different expectations. Moreover, each bidder’s expectation would have been made up of a distribution of all possible outcomes – with each possible outcome weighted by a perceived probability. It is not a simple task to second guess ‘the expectation’ that underpinned the competitive process.
71. Nonetheless, imagine that we could do so and we determined that volumes on the pipeline are now expected to be 20% higher than “expected” at the time of the initial bidding process. Also imagine that we know that this has only been associated with a 5% higher level of expected costs on the pipeline. This might be thought to imply a roughly 15% lower unit price (than observed in foundation contracts) on the pipeline. This would be consistent with the view that if a hypothetical new pipeline was being bid for today then the bidders would offer lower prices to reflect the greater economies of scale achievable on the pipeline.
72. Such an approach implies an attempt to proxy workably competitive market outcomes with the concept of a perfectly contestable market. The theoretical ‘perfectly contestable’ market is one where there are no sunk costs of entry and no barrier to a new entrant gaining efficient scale (i.e., signing up the entire market as customers prior to entry). In this theoretical model prices are constantly calibrated and recalibrated on the prevailing costs and expected volumes of a “hypothetical new entrant”.
73. This constant recalibration of prices based on a hypothetical new entrant’s unit costs reflects the assumption that if prices were set above this level then the ‘hypothetical’ entrant would become a real entrant and would immediately win 100% of the market from the incumbent (i.e., the hypothetical new entrant would become a real new entrant). Knowing this, the incumbent always prices just below the hypothetical new entrant’s costs and entry is prevented.
74. However, this model is highly theoretical and is divorced from how competition actually works for the services provided by long lived infrastructure assets that are largely sunk once the initial investment is made. In these markets, there is typically a

single contest to supply the service which results a long-term contract that governs prices into the future.

#### 4.2.1 Preserving the competitively determined risk allocation

75. In my view, ‘workably competitive outcomes’ are best estimated by adoption of terms built into long term foundation contracts. This approach preserves the initial competitively determined risk allocation between investors and customers. Specifically, the existence of a fixed price contract struck at the time an asset is built means:
- The pipeline owner bears the risk of costs and/or volumes fluctuating from then expected levels. The pipeline owner would make higher/lower than expected profits if:
    - Costs were lower/higher than expected; and
    - Volumes were higher/lower than expected.
  - Customers would be insulated – paying the same price irrespective of variations in costs/volumes.
76. Adopting the terms in these real world workably competitive contracts and applying them to subsequent contracts has the effect of preserving the actual competitively determined risk allocation. In my view this is a powerful rationale for placing most weight on foundation contracts as the best estimate of workably competitive pricing on a transmission pipeline.
77. Compare this to an approach that arrives at some other estimate of the “cost base” of the pipeline and seeks to recover this by setting future prices on the basis of this “cost base” spread over forecast of future volumes. Implicit in any such estimate of the “cost base” will be an implicit allocation of revenues and risks that is different to the competitively determined allocation at the time the foundation contract was struck.
78. By way of illustration, if forecast revenues are higher/lower than expected when the foundation contract was negotiated then such an approach will tend to provide a windfall loss/gain to the pipeline owner relative to the risk allocation in the originally negotiated risk allocation (and *vice versa* for customers).
79. Similarly, underpinning the foundation contract was an implicit profile for the evolution of the value of the pipeline. This profile reflected the movement over time in the present value of:
- negotiated contract prices multiplied by expected future volumes; less
  - expected future expenditures.
80. Of course, the actual value of the pipeline at any time would vary depending on differences between volumes/expenditures expected when foundation contracts were

negotiated and actual volumes/expenditures. However, any such departure is entirely consistent with the risk allocation freely negotiated in the foundation contract.

81. If one subsequently attempts to impose a different asset value on the pipeline (such as one based on some accounting value or replacement value) then this will be conflict with one or both of the:
  - originally competitively negotiated profile of expected asset value; and/or
  - originally competitively negotiated risk allocation (as it pertains to volumes and/or expenditures).
82. There are clear economic efficiency reasons to prefer leaving the pipeline owner with the risks associated with cost and volume variability. This is because the pipeline owner has the primary control over both of these factors. It therefore follows that it is best placed to manage these risks. Indeed, a pipeline owner who can simply raise prices when volumes fall has little incentive to prevent volumes from falling (or incentive to attempt to attract new volumes if this simply serves to lower revenues from existing volumes).
83. An additional concern with disturbing the originally negotiated risk allocation (and expected profile of asset values) is that doing so runs the risk of removing upside where pipelines are more successful than expected while leaving pipeline owners stuck with the downside on pipelines that are less successful than expected. This would effectively fail to allow for the recovery of stranding risk (as discussed in section Appendix A).
84. To see why imagine two pipelines with the same capital investment and the same expected level of long term volumes in excess of foundation contract volumes. However, let actual volumes in excess of foundation contracts on these pipelines be:
  - double expectations on one;
  - zero on the other.
85. Clearly, applying a valuation divorced from that implied by foundation contract prices would result in:
  - Low prices on the successful pipeline (costs are recovered at lower prices due to higher than expected volumes);
  - High (infinite) prices on the second pipeline.
86. However, in this context the high prices on the second pipeline do not offset the low prices on the first pipeline because there are no customers willing to pay the high

prices.<sup>14</sup> Clearly, investors on average across these pipelines will have a negative return.

87. The effect of this is that if investors cannot be certain before-hand which investments will be successful then they may not invest in any pipeline projects.

### 4.3 Expert opinion vs observed competitive outcomes

88. The primary role of competitive markets is to efficiently distil disparate sources of information (not held in any one expert's head) into a market price.
89. Using markets solve the question of what and how to produce is the major innovation of the modern economy. The 'magic' of workably competitive markets is that this is done without ever centralising the vast and widely dispersed information that is relevant into a single 'mind' or organisation. Friedrich Hayek, in his essay entitled *The Use of Knowledge in Society*, makes this point in the following passage:

*The peculiar character of the problem of a rational economic order is determined precisely by the fact that **the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess.** The economic problem of society is thus not merely a problem of how to allocate "given" resources—if "given" is taken to mean given to a single mind which deliberately solves the problem set by these "data." It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know. Or, to put it briefly, **it is a problem of the utilization of knowledge which is not given to anyone in its totality.***

90. It is difficult to overestimate the importance of this 'information sorting' role of competitive markets. Whether the issue at hand is investing in R&D for a smartphone or the capacity/functionality of a new/existing gas pipeline, it is the interactions between customers and producers at the 'coal face' that creates the knowledge about whether proceeding is efficient. Moreover, it is the allocation of risks and rewards during the development of the project that ensures that producers both have the appropriate incentives to proceed and have the incentives to manage the project as efficiently as possible into the future.

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<sup>14</sup> Equally, if demand was low, but non-zero, there may be some very high price that would recover costs but the act of attempting to charge that price may cause the demand to disappear. That is, the price that recovers cost may be higher than customers are willing to pay.

91. An actual competitive process, such as for the supply of foundation contracts on a pipeline, synthesises all of this information and all of the relevant risks (and willingness to bear those risks) and reflects these in a final set of prices and contract terms. In simple terms, competitive bidding for a major project gives rise to both expensive and intensive assessments of costs and risks and, ultimately, reliable estimates of cost-based prices.
92. Bidding for projects such as these can itself be a very significant cost. By way of example, the opportunity cost to East West Connect of bidding to build the East-West Link motorway in Melbourne was around \$424m and the total cost to the Victorian government of the bidding process was over \$1bn (despite construction never actually beginning on the project).<sup>15</sup>
93. By contrast, relying on a small number of “experts” to provide their assessments of these factors will almost certainly result in an inaccurate estimate of the prices/terms that would exist in a competitive market. The “expert opinion” approach to determining workable competitive outcomes is somewhat analogous to the adoption of ‘central planning’ by former communist bloc countries of Eastern Europe. This was an inferior way to organise an economy than relying on workably competitive markets precisely because expert opinion could not accurately synthesise the relevant information on demand, costs and risks.
94. It is my contention that the same is true in seeking to replicate the outcomes of workable competition. Relying on expert opinion on demand, costs and risks is a poor alternative to relying on observed circumstances where contracts were negotiated competitively.

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<sup>15</sup> Victorian Auditor-General’s Report, East West Link Project, December 2015. The \$424m payment to East West Connect provides an indication of the magnitude of costs incurred prior to construction. This payment was negotiated under threat of legal action for damages associated with the contract termination. It is reasonable to assume that the \$424m includes compensation not just for the direct costs incurred by EWC in negotiating the contract but also the opportunity cost of devoting scarce expertise and know-how to successfully bid for this contract and not for other contracts. This provides an indication of the perceived value of intangible (i.e., non-construction) investments made in developing and bidding for projects of this.

## 5 Rent allocations in competitive markets

95. In the previous section I discussed the fact that competitively negotiated risk allocations in foundation contracts could cause a pipeline to appear to be charging more or less than some measure of competitive market “cost”. However, I noted that is only possible if one were to adopt a theoretical concept of competitive market “cost” that was divorced from actually negotiated competitive market risk allocation.
96. However, even if there were no competitively determined risk allocations in long-term contracts it still would not be the case that we would expect some firms in competitive markets to be earning higher profits than others and that this would be a non-transitory state of affairs. That is, even putting aside the issues of risk allocation in foundation contracts, we still expect foundation contracts to confer higher profits on some pipelines than others and this is not a sign of any inconsistency with the workings of competitive markets.
97. Workably competitive markets do deliver a nexus between prices and costs. However, this does not mean that all producers in workably competitive markets get paid at, or even near, their own costs of production. Cost based pricing on a producer by producer basis is not an outcome of the even the most competitive markets. Indeed, even in the text-book model of “perfect competition” all but the marginal supplier earn ‘rents’ (i.e., have costs that are lower than the market price). Neither is cost based pricing, on a producer by producer basis, an outcome that is required to deliver economically efficient outcomes. Indeed, the opposite is typically true.
98. In a workably competitive market there will inevitably be low cost firms who are low cost by virtue of good planning and/or good fortune. This could be a transitory state of affairs, where today’s low cost firms are expected to be replaced in the future by new even lower cost firms. However, this need not be the case – i.e., today’s low cost firms may reasonably expect to remain the amongst the lowest cost firms in the industry into the future.
99. By way of example, a firm may have developed some intangible ‘know how’ the deployment of which allows them to reliably expect to achieve lower cost than other firms without the same ‘know how’. In this case, what appears to be revenues in excess of observable costs can equally be interpreted as revenues equal to observable costs plus a return to intangible assets/investments. The potential to earn revenues in excess of observable costs is what drives businesses to invest in developing intangible assets ‘know-how’ in the first place.
100. Indeed, and as set out in Appendix B 5Appendix B, intangible assets are a very significant source of observed profits across the entire economy – including in highly competitive industries. Also discussed in Appendix B is the fact that there are



undoubtedly also intangible assets deployed when building and maintaining a gas pipeline and this fact has been recognised by the Australian Competition Tribunal.<sup>16</sup>

101. Consider the mining sector selling into a competitive world market (e.g., for copper, iron ore, etc.). Some mining operations will have established low-cost extraction processes (e.g., based on mining technology, ore body location/properties or some combination of these) that enable them to sell their output onto the competitive world market at prices materially above their costs. Other miners, with higher cost operations will have a more marginal existence – potentially only just covering costs at market prices or even ‘mothballing’ plant only to reopen when market prices rise.
102. A workably competitive market does not ensure that each miner only charges his or her cost of production. The opposite applies, miners are paid more or less the same price (adjusted for differences in quality and/or transport costs to market) irrespective of their own costs.
103. A workably competitive mining sector delivers efficient outcomes by virtue of:
  - Miners having an incentive to enter/increase production (including via exploration) when the value of their output to customers exceeds their best estimate of costs of production.
    - Noting that there can be long lead times and asset lives involved such that miners must take a ‘risk’ that demand will be there by the time production is ‘online’ and will remain sufficiently high over the life of the sunk assets;
  - Miners have an incentive to exit/reduce production (including via reduced exploration) when the value of their output to customers falls below their best estimate of the costs of production.
104. If individual miners were only ever paid their individual costs of production then the desirable properties of a workably competitive market would disappear.
  - Individual miners would have little incentive to achieve the lowest possible costs on existing operations;
  - Individual miners would have little incentive to find and develop the highest value new ore bodies because these are, by definition, the lowest cost to extract (and therefore compensation would be correspondingly low).
105. Indeed, even in the text-book model of ‘perfect competition’ the upward sloping supply curve for an industry is defined by low cost firms (at the bottom of the supply curve) middle cost firms (in the middle of the supply curve) and the highest cost firms at the top of the supply curve. At any given time only one firm earns zero economic profit. Specifically, the most marginal firm (the firm on the edge of exit from the industry – such that their position on the supply curve is at the point where the demand curve

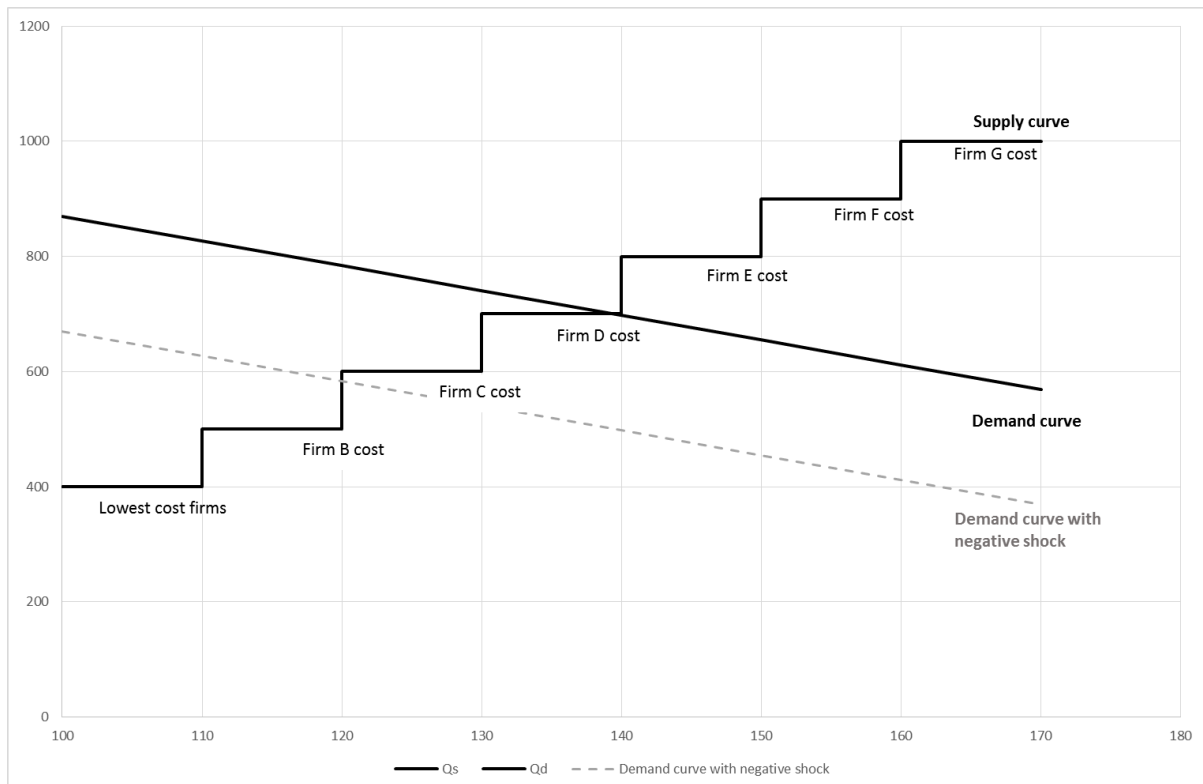
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<sup>16</sup> *Application by Envestra Limited (No 2) [2012] ACompT 3 (11 January 2012), §264.*

cuts the supply curve). The other firms in the industry that are 'lower down' the supply curve will earn positive economic returns (i.e., revenues that exceed their specific costs). Indeed, this is their return to whatever past actions/investments enabled them to achieve lower costs than the most marginal firm.

106. This is illustrated in the below figure.

**Figure 5-1: Supply and demand in perfect competition**



107. In the above representation the supply curve is upward sloping due the lowest cost firms exhausting their capacity prior to meeting the full market demand. For example, the lowest cost firms may own land that is strategically located for the industry in question and the higher cost firms may have to make do with less well-located land.

108. If market demand is high enough the higher cost firms must be called on to meet that demand. As drawn, these are firms B through to D. However, in order for Firm D to be enticed to produce, prices must be set at \$700 per unit. When prices reach this level, supply is raised (i.e., up to and including Firm D's production) and demand is dampened to the level where both are equal. Higher prices could elicit more supply (e.g., from Firm E not currently producing) but customers place a lower value on that incremental production (demand is below supply) such that the requisite price could not be sustained.

109. In equilibrium the lowest cost producers are paid \$700 even though their costs are only \$400. Similarly, Firms B and C earn revenues in excess of their costs. Only the marginal firm (Firm D) earns revenues that match its costs. Of course, this is a snapshot of the market and there is a constant effort by all firms to lower their costs relative to their peers and, thereby, shift down the supply curve and thereby earn economic rents.
110. Moreover, the demand curve is not necessarily static. A reduction in demand (downward shift in the demand curve) can turn positive economic rents into negative ones. As illustrated, a downward shock to demand could turn Firm C from a positive economic profit firm into a negative economic profit firm.
111. The above discussion makes clear that some firms can earn persistent rents even in perfectly competitive markets. This can be due to good planning or good fortune. This may be at odds with some naïve notions of the outcomes of workably competitive markets. Some people may conceive of a workably competitive market as a situation where all firms have more or less identical costs and, consequently, no firm can earn persistent economic profits because competitors, who have the same costs, would be able to profitably steal their customers. This assumption is equivalent to assuming a perfectly flat industry supply curve – such that no firm has lower costs than the market price (determined by intersection of the supply and demand curves).
112. This is a very specific notion of ‘workable competition’. It does not only assume that competition is workable in the sense that it delivers the efficient outcomes. Rather, it imposes a further unrealistic assumption, which is that all firms are identical and, therefore, the efficient outcome is also associated with zero economic rents for all firms.
113. Under this extreme assumption any observed rents must be due to a lack of competitive constraints faced by that firm (because all firms are assumed to have identical costs then all firms in a competitive market must be simultaneously ‘marginal’ earning zero economic rents).
114. By contrast, the example above makes clear that, even in the most competitive markets, rents are accruing to all low cost firms due to the fact that they have low costs. The assumptions underpinning Figure 5-1 is that of perfect competition where all firms outputs are perfect substitutes for each other. Consequently, all firms receive the same price for their outputs (the “law of one price” holds). The low-cost firms earn economic rents not because they can ‘give less and charge more’ but simply because they have a lower cost.
115. The above exposition demonstrates that economic rents exist even in the text-book scenario of perfect competition ‘within the market’. Of course, the same is true of competition ‘for the market’. For example, at the time a competitive tender process to build and operate a pipeline is held, one of the bidders may have, or may expect to acquire, advantages of know-how or reputation relative to its competitors.



Consequently, that bidder may win the competitive process even though it offers a price that is higher than its own expected costs. Of course, the winning bid is still competitive by virtue of being lower than the prices at which competitors were willing to supply. However, the winning competitive price still includes a return to the bidder on whatever advantages that bidder brought to the negotiations that its competitors did not.

## Appendix A Asset stranding risk

116. In competitive markets all firms demand and receive compensation for stranding risk. This includes firms that, ultimately, have long and successful existences. Indeed, it is the prospect of a long and successful existence that provides firms with *ex ante* (expected) compensation for stranding risk. That is, successful firms have to make profits in excess of economic costs in order to provide investors in an industry (that includes failed ventures) compensation consistent with economic costs.
117. Consider the simple and extreme examples of mining exploration and drug R&D. Only a small fraction of investments in these activities bear fruit – with most investments having negative net present values. This means that at least some investments, when successful, must have very large ‘pay offs’ well in excess of the costs directly incurred in that project in order to provide compensation that covers the cost of unsuccessful projects. This is necessary otherwise investors would not provide capital to the mining exploration and drug R&D sectors.
118. Now imagine that the mining exploration and drug R&D sector was deemed to be not workably competitive and an arbiter was appointed to determine what represented a workably competitive price that they could sell their successfully identified tenements/drugs. The main task of the arbiter would not be to work out what the costs incurred on the individual project were nor what the WACC required on the investment was (noting that the WACC provides zero compensation for stranding risk)<sup>17</sup>. The main task of the arbiter would be to work out what the compensation required was for stranding risk.

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<sup>17</sup> The WACC reflects the risk profile of the *expected return* (after stranding risk). In modern finance theory risk derives from the correlation between an individual asset’s cash-flows and the cash-flows on a fully diversified portfolio of assets. For example, a coin toss is considered to have zero finance (WACC) risk because the outcome of a coin toss is independent of the outcome of events in the wider economy (and therefore within a diversified portfolio). However, this doesn’t mean that a coin toss has zero stranding risk. If an asset pays \$1m for heads and \$0 for tails then the value of that asset is less than the value if successful (\$1m) even though it has zero finance risk it still has material stranding risk.

A formal example may help highlight the difference. Imagine that an investors had to invest today in an asset that either paid \$1m in one year’s time with 50% probability or \$0m in one year’s time (also with 50% probability). Which outcome occurs is totally uncorrelated with events in the wider economy (e.g., a coin toss). The amount that an investor would pay for this investment today would be the expected value of cash-flows ( $\$0.5m = 0.5 * \$1.0m + 0.5 * \$0.0m$ ) divided by 1 plus the investors discount rate (r). That is, the value of the investment would be  $\$0.5m / (1+r)$ . Given the assumptions about correlations r is the risk free rate (say 3%). This implies a value of the asset of \$0.485m – slightly less than \$0.5m.

Now, imagine that the investment is successful. The investor will receive a return of 206% ( $1/0.485$ ). However, only 3% of this is compensation based on the risk adjusted time value of money (WACC=3%). The remaining 103% is compensation for the prospect of receiving nothing (zero principle and zero return) should the ‘coin toss’ have gone the other way. This is compensation for stranding risk and is a different concept the risk adjusted time value of money (WACC).

119. This may seem a peculiar task for an arbiter to undertake given that, by definition, the project has been successful. That is, one may ask why compensation for stranding risk is required given that the investment in question is not stranded – the drug works and/or the tenement has viable minerals. The answer is that investors did not know this with certainty before-hand. If the arbiter set prices for successful drugs/tenements with zero compensation for stranding risk then there would be zero investment in mining exploration/drug R&D because there would be no compensation for stranding risk.
120. The industries in the above example are chosen because they are well understood to have very high stranding risk – with most individual projects failing to deliver any value to investors. However, all commercial investments involve some stranding risk and stranding risk will typically be the most significant risk faced at the time of an investment. Opening a new café exposes the investor to stranding risk and they must expect to receive compensation for that stranding risk over the life of the café (if it is successful) in order to make the investment.
121. The same is true for a pipeline investment. Prior to investment, and at all times thereafter, there is stranding risk associated with the investment. The sources of stranding risk include: a) insufficient future demand to allow for the recovery of costs not expected to be recovered under foundation contracts (including as a result of competitive developments); b) failure of foundation customers to adhere to their contracts (e.g., due to bankruptcy); c) unanticipated costs (both expenditures and financing costs) including in relation to force majeure events; etc.
122. The Capline pipeline in the US is an example today of a major pipeline suffering from low utilisation due to changed consumption patterns in the US energy market.<sup>18</sup>
123. An arbiter making an assessment today on workably competitive compensation must include compensation for:
  - Stranding risk borne to date – even if stranding has not actually occurred; and
  - Stranding risk that will be borne in the future – noting that for a long lived asset such as a pipeline there will be some future stranding risk so long as the investment has any value today.
124. An arbiter cannot hope to arrive at an accurate estimate of these costs on an actuarially expected basis. What has actually happened (even if there is perfect information on this) is not a good guide to the *ex-ante* expected risks investors faced. As already noted, successful investments must pay compensation for the expected cost of unsuccessful investments – otherwise all investment in the industry will have negative NPV.

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<sup>18</sup> Reuters, Plains weighs idling oil pipeline due to new competition - report, May 27, 2017, <http://www.reuters.com/article/usa-pipelines-capline-idUSL1N1ISOMV>



125. Foundation contracts, by contrast, reflect the before the fact assessment of stranding risk on a pipeline. That is, foundation contract prices reflect an assessment of the compensation for stranding that would be required in the event that a pipeline was 'successful' in order to compensate for the risks that it would not be successful.

## Appendix B Value of intangible assets

### B.1 Academic estimates of the value of intangible assets

126. The value of ‘know how’ held within a pipeline builder/operators organisation is an critical element of their business operation and a valuable asset on which they require a return. Intangible assets, in the form of commercial know-how, are a very important element in competitive markets. Estimates put the value of intangible asset in the modern economy at in excess of the value of physical assets.

127. Baruch Lev also observed that, in October 2003, the market value (stock price times number of shares outstanding) of US publicly traded companies was five times larger than their balance sheet value, which reflected primarily the net worth of physical and financial (stocks and bonds) assets.<sup>19</sup> This caused Lev to conclude that:<sup>20</sup>

*“...about three-quarters of the value of public companies, as perceived by investors, reflects non-physical and non-financial assets, which are absent from corporate balance sheets.”*

128. In a similar vein, Lev concluded in an earlier paper that, evidence on the differences between book to market valuations of US companies listed in the S&P 500 index confirmed that, at least at that time:<sup>21</sup>

*“...an amount of value equal to between one-half and two-thirds of corporate market values reflects the value of intangible assets.”*

129. Leonard Nakamura of the Federal Reserve Bank of Philadelphia provided three different measures of the magnitude of intangible assets in the US economy:<sup>22</sup>

- an accounting estimate of the value of the investments in research and development, software, brand development and other intangibles;
- the wages and salaries paid to the researchers, technicians and other creative workers who contribute to the generation of these intangible assets; and

<sup>19</sup> Lev, B., (2005), “Intangible Assets: Concepts and Measurement”, *Encyclopedia of Social Management*, Volume 2, p.299.

<sup>20</sup> *Ibid.*

<sup>21</sup> Lev, B., 2003, Remarks on the Measurement, 2003, Valuation and Reporting of Intangible Assets. FRBNY Economic Policy Review, September 2003

<sup>22</sup> See: Nakamura, L., (1999), “Intangibles: What put the new in the new economy?”, *Federal Reserve Bank of Philadelphia Business Review*, July/August, pp.3-16; and Nakamura, L. 2001. “What Is the U.S. Gross Investment in Intangibles? (At Least) One Trillion Dollars a Year!” Federal Reserve Bank of Philadelphia Working Paper no. 01-15.



- the improvement in operating margins (sales less cost of sales) that he attributes to improvements to intangible factors such as the technical know-how of businesses, e.g., to internet-based supply chains.
130. With all three approaches, he estimated the investments in intangible assets to be in excess of US\$1 trillion in 2000 and the capitalised value of these intangible assets to be in excess of US\$6 trillion in the same year. To put this amount in perspective, the same-year investment of the US manufacturing sector in physical assets (primarily property, plant and equipment) was about US\$1.1 trillion.
131. This earlier work was subsequently expanded and verified by the likes of Corrado, Haltiwanger and Sichel (2005),<sup>23</sup> who also estimated the intangible assets in the US economy as being US\$1 trillion in 1999. Since that time, many scholars have studied and confirmed the existence of a gap between firms' market value and book value. They have concluded that there is significant value unmentioned in financial statements.<sup>24</sup> That value, from which firms derive a substantial proportion of their returns, reflects intangible assets.

## B.2 Implications for workably competitive prices

132. The existence of intangible assets must be reflected in competitive prices. Indeed, the reason that market valuations of the typical company exceed their value of physical assets is precisely because those companies set prices to recover the value of intangible assets.
133. Even if an arbiter could accurately value the physical cost of the infrastructure associated with a pipeline the arbiter would still have to grapple with the value of intangible assets ('know how') deployed by the pipeline operators in both constructing and maintaining the assets. These are, by their very nature, difficult to estimate on a 'desktop' basis. However, they are incredibly important to the operation of workably competitive markets.
134. That APA has valuable intangible assets ('know how') in managing pipeline assets has been recognised by the Australian Competition Tribunal. This was affirmed by the Australian Competition Tribunal, when it ruled that it was appropriate for Envestra to continue to pay a network management fee (NMF) to APA for managing its natural gas

<sup>23</sup> Corrado, C., Haltiwanger, J., & Sichel, D., (2005) "Measuring Capital and Technology: An Expanded Framework", in *Measuring Capital in the New Economy*, pp.11-46.

<sup>24</sup> See for example: Chen, Y., Lin, M. J., & Chang, C. (2006), "The influence of intellectual capital on new product development performance – the manufacturing companies of Taiwan as an example." *Total Quality Management & Business Excellence*, 17(10), pp.1323–1339; Campisi, D. & Costa, R. (2008), "A DEA-based method to enhance Intellectual Capital management", *Knowledge and Process Management*, 15 (3), pp.170-183; and Iazzolino, G. & Fortino, A. (2012), "Credit risk analysis and the KMV-Black and Scholes model: a proposal of correction and an empirical analysis", *Investment Management and Financial Innovations*, 9 (2), pp.54-68.

distribution networks. The NMF reflected, in part, the human capital (i.e., the intangible assets) possessed by APA (that Envestra did not possess) that it employed in the provision of the services.<sup>25</sup> The Tribunal ruled that payment of the NMF (which was disputed by the AER) was an efficient cost:<sup>26</sup>

*“...the NMF is not a one-off cost to improve the efficiency of the management of the network. **It is a fee that must be paid every year in order to have access to the efficiencies offered by APA.** If the NMF is required to be paid in one year in order to access the efficiencies provided by APA, unless circumstances change, the NMF will have to be paid in the following year, and the year after, in order to ensure APA continues to manage the network. **APA may well refuse to operate the network if Envestra ceased paying the fee.**” [Emphasis added]*

135. This finding was in the context of a decision where the Tribunal directed the AER to allow Envestra to recover a margin paid to APA to access that expertise.
136. Of course, the same logic applies even more strongly to APA’s investments made on its own behalf. APA has valuable know-how and can be expected to earn a return on this know-how in a competitive market. It would be inconsistent with the economic logic of this Tribunal decision if APA was not allowed to recover the same margin on its know-how when it is applied for the purpose of operating its own pipelines.
137. Foundation contracts automatically reflect a market value to such intangible assets because they reflect the willingness of foundation customers to pay pipeline builders/operators based on their assessed ability to deliver on the job.

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<sup>25</sup> *Application by Envestra Limited (No 2) [2012] ACompT 3 (11 January 2012), §206.*

<sup>26</sup> *Application by Envestra Limited (No 2) [2012] ACompT 3 (11 January 2012), §264.*



# Curriculum Vitae

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Dr Tom Hird / Director

## Contact Details



## Key Practice Areas

Tom Hird is a founding Director of CEG's Australian operations. In the ten years since its inception CEG has been recognised by Global Competition Review (GCR) as one of the top 21 worldwide economics consultancies with focus on competition law. Tom has a Ph.D. in Economics from Monash University. Tom has also been named by GCR in its list of top individual competition economists.

Tom's clients include private businesses and government agencies.

In terms of geographical coverage, Tom's clients have included businesses and government agencies in Australia, Belgium, France, Germany, Hong Kong, Japan, Korea, Macau, the Netherlands, New Zealand, the Philippines, Poland, Singapore, and the UK. Selected assignments are set out below.

## Selected recent projects

### Competition/damages

- 2019** Advice in relation to the impact of merger between carpark providers in New Zealand.
- 2019** Advice in relation to potential transaction in the advertising sector.
- 2019** Advice in relation to potential anticompetitive conduct in the Australian port sector.
- 2019** Advice on the need for, and design of, obligations to provide liquidity in electricity hedge markets.
- 2019** Competition analysis in the Australian mortgage sector in the context of proposed regulation of mortgage broking commissions.
- 2019** Advice in relation to potential gas transport arbitrations.
- 2019** Advice in relation to the impact of price transparency on competition.
- 2018** Advice on competition issues in relation to the supply of inputs for Australian steel-making.
- 2018** Advice on gas pipeline competition investigation by the New Zealand Commerce Commission. Retained by Chapman Trip.
- 2018** Advice on competition issues raised by Transurban's bid for WestConnex road network in Sydney. Retained by the ACCC
- 2018** Advice on competition issues raised by joint venture in the mining sector. Retained by Nishimura & Asahi.



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- 2018** Expert witness testimony in the Supreme Court of Victoria in relation to quantification of damages arising from early termination by the Commonwealth of the Home Insulation Program;
  - 2018** New Zealand electricity competition review retained by Meridian Energy.
  - 2017** Electricity competition reviews by ACCC and Victorian Independent Panel. Retained by Gilbert + Tobin.
  - 2017** South32 acquisition of Peabody. Retained by HSF and Jones Day.
  - 2017** Expert witness testimony before the Australian Competition Tribunal in relation to the Tabcorp acquisition of Tatts. Retained by Racing Victoria.
  - 2017** Proposed petrol retail merger between BP and Woolworths. Retained by ACCC.
  - 2017** Joint venture between Alliance Airline and Virgin Australia Regional Airlines. Retained by Gilbert + Tobin.
  - 2017** Informed sources information sharing in the petrol retail sector. Retained by Australian Government Solicitor.
  - 2016** Qube /Brookfield acquisition Asciano stevedoring assets. Retained by Clayton Utz advising Asciano.
  - 2016** APLNG royalty dispute with the Queensland Treasurer. Retained by Clayton Utz.
  - 2016** Glencore sale of rail coal haulage operation. Retained by Clayton Utz.
  - 2016** Qube acquisition of Asciano stake in Australian Amalgamated Terminals (AAT). Retained by Gilbert + Tobin.
  - 2016** Advice to Sainsbury's on the present value of damages to be claimed from MasterCard in relation to excessive interchange fees. Retained by Mishcon de Reya.
  - 2016** Advice to the New Zealand Ministry of Primary Industries (MPI) on the implications of potential reforms to the regulation of the milk processing sector.
  - 2016** Macquarie Group acquisition of Esanda Dealer Finance from ANZ Bank. Retained by Clayton Utz.
  - 2016** Advice on the ACCC inquiry into the east coast gas (retained by King & Wood Mallesons on behalf of APA).

#### **Regulatory design and other issues**

- Ongoing** Advice to a number of Australian and New Zealand businesses on the optimal design of the regulatory system for the treatment of inflation forecast errors (under the National Gas Rules and the National Electricity Rules in Australia and the New Zealand Input Methodologies);
- Ongoing** Advice to a number of entities (across a range of domestic jurisdictions and countries) on cost of capital issues.



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- 2019** Advice on the quantification of ‘timing benefits’ in the AER’s PTRM model. Retained by Jemena and SAPN.
  - 2018** Assistance to Jemena Gas Networks in preparing all aspects of their 2021-25 regulatory proposal;
  - 2018** Advice to the Australian ENA collating and analysing the actual debt portfolios of its members (pursuant to an AER request);
  - 2018** Advice to Jemena Gas Networks on the remittal of its previous AER regulatory decision;
  - 2018** Advice to Aurizon on the cost of capital and estimation of expected inflation;
  - 2018** Advice to Essential Energy on the remittal of its previous AER regulatory decision. Also advice in relation to its upcoming regulatory decision on: cost escalation and expected inflation in addition to cost of capital estimation;
  - 2018** Advice to Endeavour Energy on the remittal of its previous AER regulatory decision. Also advice in relation to its upcoming regulatory decision on: cost escalation and expected inflation in addition to cost of capital estimation;
  - 2017** Advice to the following Australian regulated energy business: ActewAGL, APA, ATCO, AusGrid, AusNet Services, Australian Gas Networks, Citipower, Dampier Bunbury Pipeline, ElectraNet, Jemena, Multinet, Powercor Australia, Powerlink, SAPN, TransGrid, United Energy Distribution.
  - 2017** Advice to Vector on the incentive properties of different treatments of economies of scale gained/lost as a result of transactions between regulated entities.
  - 2016** Advice to the Singapore telecommunications regulator (the IDA) on the incentive properties of adopting various benchmarks to set the cost of debt allowance in regulatory cost modelling.
  - 2016** Advice to the New Zealand Electricity Networks Association on a range of issues related to review of the New Zealand input methodologies.
  - 2016** Advice to Chorus, the NZ ENA and New Zealand Airports association in relation to the relative merits of setting the regulated cost of capital above the mean estimate of the cost of capital.
  - 2016** Expert evidence to a number of Australian entities (ATCO and the Australian Energy Networks Association) on regulatory reform to the approach for setting cost of debt allowances.
  - 2016** Advice to the NZ ENA on equity beta for regulated gas and electricity businesses;

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**1 May 2019**

**By email**

Dr Tom Hird  
Director, Competition Economists Group  
Email [REDACTED]

**Confidential and privileged**

Dear Dr Hird

**Workable competition in the provision of gas pipeline services**

We act for APA Group (**APA**), and we are currently advising APA in relation to the application of a new arbitration framework for pipeline services provided by means of APA's 'non-scheme pipelines'.

The purpose of this letter is to seek your independent expert opinion in relation to certain economic concepts which underpin the legal framework for arbitration. Your opinion will inform our legal advice to APA in relation to the application of the new legal framework.

**Background**

On 1 August 2017, amendments to the National Gas Law (**NGL**) and National Gas Rules (**NGR**) to introduce a new arbitration framework for 'non-scheme pipelines' took effect. Non-scheme pipelines include certain transmission pipelines owned by APA that are not covered pipelines. As these pipelines are not covered, the tariffs that APA may charge for use of these pipelines (and hence the revenues that it may earn) are not subject to regulation. The tariffs and other terms and conditions of access for these pipelines have been (until now) subject to commercial negotiation between APA and its customers.

Under the new arbitration framework, if a prospective user or user cannot agree with APA about one or more aspects of access to a pipeline service after a request for access has been made in accordance with the NGR, the prospective user or user, or APA, may notify the scheme administrator that an access dispute exists. If the scheme administrator receives notification of an access dispute, the dispute must be referred to arbitration.

When making a determination in respect of an access dispute, the arbitrator must take into account:<sup>1</sup>

- the principle that access to pipeline services must be on 'reasonable terms', which is taken to mean at prices and on other terms and conditions that, so far as practical, reflect the outcomes of a workably competitive market;
- the pricing principles for the new arbitration framework, which are set out in rule 569 of the NGR; and
- the operational and technical requirements necessary for the safe and reliable operation of the pipeline.

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<sup>1</sup> NGR, rule 569.

### **Independent expert opinion**

We seek your opinion on the following matters:

- 1 What are the key economic features of a workably competitive market? What economic outcomes would you expect to see in a workably competitive market for the provision of gas pipeline services?
- 2 Where foundation contracts for the provision of pipeline services have been struck in competitive market conditions, how should the terms of these contracts be taken into account in seeking to determine tariffs for pipeline services that reflect the outcomes of a workably competitive market?

We request that your opinion be provided by way of a report addressed to Gilbert + Tobin.

### **Guidelines for preparing your report**

There are certain principles governing the content and form of expert reports set out in the Federal Court of Australia Expert Evidence Practice Notes. Those principles are set out in Attachment A and we request they be observed when you are preparing your report.

In particular, please:

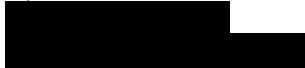
- (a) identify your relevant area of expertise and provide a curriculum vitae setting out the details of that expertise;
- (b) only address matters that are within your expertise;
- (c) where you have used factual or data inputs please identify those inputs and the sources;
- (d) if you make assumptions, please identify them as such and confirm that they are in your opinion reasonable assumptions to make; and
- (e) confirm that you have made all the inquiries that you believe are desirable and appropriate and that no matters of significance that you regard as relevant have, to your knowledge, been withheld from your report.

Please contact me if you require any further information.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Geoff Petersen', written in a cursive style.

**Geoff Petersen**  
Special Counsel



**ATTACHMENT A: FEDERAL COURT PRACTICE NOTE**





## EXPERT EVIDENCE PRACTICE NOTES (GPN-EXPT)

### General Practice Note

#### 1. INTRODUCTION

- 1.1 This practice note, including the *Harmonised Expert Witness Code of Conduct* (“**Code**”) (see **Annexure A**) and the *Concurrent Expert Evidence Guidelines* (“**Concurrent Evidence Guidelines**”) (see **Annexure B**), applies to any proceeding involving the use of expert evidence and must be read together with:
- (a) the Central Practice Note (CPN-1), which sets out the fundamental principles concerning the National Court Framework (“**NCF**”) of the Federal Court and key principles of case management procedure;
  - (b) the Federal Court of Australia Act 1976 (Cth) (“**Federal Court Act**”);
  - (c) the *Evidence Act 1995* (Cth) (“**Evidence Act**”), including Part 3.3 of the Evidence Act;
  - (d) Part 23 of the *Federal Court Rules 2011* (Cth) (“**Federal Court Rules**”); and
  - (e) where applicable, the Survey Evidence Practice Note (GPN-SURV).
- 1.2 This practice note takes effect from the date it is issued and, to the extent practicable, applies to proceedings whether filed before, or after, the date of issuing.

#### 2. APPROACH TO EXPERT EVIDENCE

- 2.1 An expert witness may be retained to give opinion evidence in the proceeding, or, in certain circumstances, to express an opinion that may be relied upon in alternative dispute resolution procedures such as mediation or a conference of experts. In some circumstances an expert may be appointed as an independent adviser to the Court.
- 2.2 The purpose of the use of expert evidence in proceedings, often in relation to complex subject matter, is for the Court to receive the benefit of the objective and impartial assessment of an issue from a witness with specialised knowledge (based on training, study or experience - see generally s 79 of the *Evidence Act*).
- 2.3 However, the use or admissibility of expert evidence remains subject to the overriding requirements that:
- (a) to be admissible in a proceeding, any such evidence must be relevant (s 56 of the *Evidence Act*); and

- (b) even if relevant, any such evidence, may be refused to be admitted by the Court if its probative value is outweighed by other considerations such as the evidence being unfairly prejudicial, misleading or will result in an undue waste of time (s 135 of the Evidence Act).

- 2.4 An expert witness' opinion evidence may have little or no value unless the assumptions adopted by the expert (ie. the facts or grounds relied upon) and his or her reasoning are expressly stated in any written report or oral evidence given.
- 2.5 The Court will ensure that, in the interests of justice, parties are given a reasonable opportunity to adduce and test relevant expert opinion evidence. However, the Court expects parties and any legal representatives acting on their behalf, when dealing with expert witnesses and expert evidence, to at all times comply with their duties associated with the overarching purpose in the Federal Court Act (see ss 37M and 37N).

### **3. INTERACTION WITH EXPERT WITNESSES**

- 3.1 Parties and their legal representatives should never view an expert witness retained (or partly retained) by them as that party's advocate or "hired gun". Equally, they should never attempt to pressure or influence an expert into conforming his or her views with the party's interests.
- 3.2 A party or legal representative should be cautious not to have inappropriate communications when retaining or instructing an independent expert, or assisting an independent expert in the preparation of his or her evidence. However, it is important to note that there is no principle of law or practice and there is nothing in this practice note that obliges a party to embark on the costly task of engaging a "consulting expert" in order to avoid "contamination" of the expert who will give evidence. Indeed the Court would generally discourage such costly duplication.
- 3.3 Any witness retained by a party for the purpose of preparing a report or giving evidence in a proceeding as to an opinion held by the witness that is wholly or substantially based in the specialised knowledge of the witness<sup>2</sup> should, at the earliest opportunity, be provided with:
  - (a) a copy of this practice note, including the Code (see Annexure A); and
  - (b) all relevant information (whether helpful or harmful to that party's case) so as to enable the expert to prepare a report of a truly independent nature.
- 3.4 Any questions or assumptions provided to an expert should be provided in an unbiased manner and in such a way that the expert is not confined to addressing selective, irrelevant or immaterial issues.

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<sup>2</sup> Such a witness includes a "Court expert" as defined in r 23.01 of the Federal Court Rules. For the definition of "expert", "expert evidence" and "expert report" see the Dictionary, in Schedule 1 of the Federal Court Rules.

#### **4. ROLE AND DUTIES OF THE EXPERT WITNESS**

- 4.1 The role of the expert witness is to provide relevant and impartial evidence in his or her area of expertise. An expert should never mislead the Court or become an advocate for the cause of the party that has retained the expert.
- 4.2 It should be emphasised that there is nothing inherently wrong with experts disagreeing or failing to reach the same conclusion. The Court will, with the assistance of the evidence of the experts, reach its own conclusion.
- 4.3 However, experts should willingly be prepared to change their opinion or make concessions when it is necessary or appropriate to do so, even if doing so would be contrary to any previously held or expressed view of that expert.

#### ***Harmonised Expert Witness Code of Conduct***

- 4.4 Every expert witness giving evidence in this Court must read the *Harmonised Expert Witness Code of Conduct* (attached in Annexure A) and agree to be bound by it.
- 4.5 The Code is not intended to address all aspects of an expert witness' duties, but is intended to facilitate the admission of opinion evidence, and to assist experts to understand in general terms what the Court expects of them. Additionally, it is expected that compliance with the Code will assist individual expert witnesses to avoid criticism (rightly or wrongly) that they lack objectivity or are partisan.

#### **5. CONTENTS OF AN EXPERT'S REPORT AND RELATED MATERIAL**

- 5.1 The contents of an expert's report must conform with the requirements set out in the Code (including clauses 3 to 5 of the Code).
- 5.2 In addition, the contents of such a report must also comply with r 23.13 of the *Federal Court Rules*. Given that the requirements of that rule significantly overlap with the requirements in the Code, an expert, unless otherwise directed by the Court, will be taken to have complied with the requirements of r 23.13 if that expert has complied with the requirements in the Code and has complied with the additional following requirements. The expert shall:
  - (a) acknowledge in the report that:
    - (i) the expert has read and complied with this practice note and agrees to be bound by it; and
    - (ii) the expert's opinions are based wholly or substantially on specialised knowledge arising from the expert's training, study or experience;
  - (b) identify in the report the questions that the expert was asked to address;

- (c) sign the report and attach or exhibit to it copies of:
  - (i) documents that record any instructions given to the expert; and
  - (ii) documents and other materials that the expert has been instructed to consider.

5.3 Where an expert's report refers to photographs, plans, calculations, analyses, measurements, survey reports or other extrinsic matter, these must be provided to the other parties at the same time as the expert's report.

## **6. CASE MANAGEMENT CONSIDERATIONS**

6.1 Parties intending to rely on expert evidence at trial are expected to consider between them and inform the Court at the earliest opportunity of their views on the following:

- (a) whether a party should adduce evidence from more than one expert in any single discipline;
- (b) whether a common expert is appropriate for all or any part of the evidence;
- (c) the nature and extent of expert reports, including any in reply;
- (d) the identity of each expert witness that a party intends to call, their area(s) of expertise and availability during the proposed hearing;
- (e) the issues that it is proposed each expert will address;
- (f) the arrangements for a conference of experts to prepare a joint-report (see Part 7 of this practice note);
- (g) whether the evidence is to be given concurrently and, if so, how (see Part 8 of this practice note); and
- (h) whether any of the evidence in chief can be given orally.

6.2 It will often be desirable, before any expert is retained, for the parties to attempt to agree on the question or questions proposed to be the subject of expert evidence as well as the relevant facts and assumptions. The Court may make orders to that effect where it considers it appropriate to do so.

## **7. CONFERENCE OF EXPERTS AND JOINT-REPORT**

7.1 Parties, their legal representatives and experts should be familiar with aspects of the Code relating to conferences of experts and joint-reports (see clauses 6 and 7 of the Code attached in Annexure A).

- 7.2 In order to facilitate the proper understanding of issues arising in expert evidence and to manage expert evidence in accordance with the overarching purpose, the Court may require experts who are to give evidence or who have produced reports to meet for the purpose of identifying and addressing the issues not agreed between them with a view to reaching agreement where this is possible (“**conference of experts**”). In an appropriate case, the Court may appoint a registrar of the Court or some other suitably qualified person (“**Conference Facilitator**”) to act as a facilitator at the conference of experts.
- 7.3 It is expected that where expert evidence may be relied on in any proceeding, at the earliest opportunity, parties will discuss and then inform the Court whether a conference of experts and/or a joint-report by the experts may be desirable to assist with or simplify the giving of expert evidence in the proceeding. The parties should discuss the necessary arrangements for any conference and/or joint-report. The arrangements discussed between the parties should address:
- (a) who should prepare any joint-report;
  - (b) whether a list of issues is needed to assist the experts in the conference and, if so, whether the Court, the parties or the experts should assist in preparing such a list;
  - (c) the agenda for the conference of experts; and
  - (d) arrangements for the provision, to the parties and the Court, of any joint-report or any other report as to the outcomes of the conference (“**conference report**”).

### ***Conference of Experts***

- 7.4 The purpose of the conference of experts is for the experts to have a comprehensive discussion of issues relating to their field of expertise, with a view to identifying matters and issues in a proceeding about which the experts agree, partly agree or disagree and why. For this reason the conference is attended only by the experts and any Conference Facilitator. Unless the Court orders otherwise, the parties' lawyers will not attend the conference but will be provided with a copy of any conference report.
- 7.5 The Court may order that a conference of experts occur in a variety of circumstances, depending on the views of the judge and the parties and the needs of the case, including:
- (a) while a case is in mediation. When this occurs the Court may also order that the outcome of the conference or any document disclosing or summarising the experts' opinions be confidential to the parties while the mediation is occurring;
  - (b) before the experts have reached a final opinion on a relevant question or the facts involved in a case. When this occurs the Court may order that the parties exchange draft expert reports and that a conference report be prepared for the use of the experts in finalising their reports;

(c) after the experts' reports have been provided to the Court but before the hearing of the experts' evidence. When this occurs the Court may also order that a conference report be prepared (jointly or otherwise) to ensure the efficient hearing of the experts' evidence.

- 7.6 Subject to any other order or direction of the Court, the parties and their lawyers must not involve themselves in the conference of experts process. In particular, they must not seek to encourage an expert not to agree with another expert or otherwise seek to influence the outcome of the conference of experts. The experts should raise any queries they may have in relation to the process with the Conference Facilitator (if one has been appointed) or in accordance with a protocol agreed between the lawyers prior to the conference of experts taking place (if no Conference Facilitator has been appointed).
- 7.7 Any list of issues prepared for the consideration of the experts as part of the conference of experts process should be prepared using non-tendentious language.
- 7.8 The timing and location of the conference of experts will be decided by the judge or a registrar who will take into account the location and availability of the experts and the Court's case management timetable. The conference may take place at the Court and will usually be conducted in-person. However, if not considered a hindrance to the process, the conference may also be conducted with the assistance of visual or audio technology (such as via the internet, video link and/or by telephone).
- 7.9 Experts should prepare for a conference of experts by ensuring that they are familiar with all of the material upon which they base their opinions. Where expert reports in draft or final form have been exchanged prior to the conference, experts should attend the conference familiar with the reports of the other experts. Prior to the conference, experts should also consider where they believe the differences of opinion lie between them and what processes and discussions may assist to identify and refine those areas of difference.

### ***Joint-report***

- 7.10 At the conclusion of the conference of experts, unless the Court considers it unnecessary to do so, it is expected that the experts will have narrowed the issues in respect of which they agree, partly agree or disagree in a joint-report. The joint-report should be clear, plain and concise and should summarise the views of the experts on the identified issues, including a succinct explanation for any differences of opinion, and otherwise be structured in the manner requested by the judge or registrar.
- 7.11 In some cases (and most particularly in some native title cases), depending on the nature, volume and complexity of the expert evidence a judge may direct a registrar to draft part, or all, of a conference report. If so, the registrar will usually provide the draft conference report to the relevant experts and seek their confirmation that the conference report accurately reflects the opinions of the experts expressed at the conference. Once that

confirmation has been received the registrar will finalise the conference report and provide it to the intended recipient(s).

## **8. CONCURRENT EXPERT EVIDENCE**

- 8.1 The Court may determine that it is appropriate, depending on the nature of the expert evidence and the proceeding generally, for experts to give some or all of their evidence concurrently at the final (or other) hearing.
- 8.2 Parties should familiarise themselves with the *Concurrent Expert Evidence Guidelines* (attached in Annexure B). The Concurrent Evidence Guidelines are not intended to be exhaustive but indicate the circumstances when the Court might consider it appropriate for concurrent expert evidence to take place, outline how that process may be undertaken, and assist experts to understand in general terms what the Court expects of them.
- 8.3 If an order is made for concurrent expert evidence to be given at a hearing, any expert to give such evidence should be provided with the Concurrent Evidence Guidelines well in advance of the hearing and should be familiar with those guidelines before giving evidence.

## **9. FURTHER PRACTICE INFORMATION AND RESOURCES**

- 9.1 Further information regarding [Expert Evidence](#) and [Expert Witnesses](#) is available on the Court's website.
- 9.2 Further information to assist litigants, including a range of helpful guides, is also available on the Court's website. This information may be particularly helpful for litigants who are representing themselves.

J L B ALLSOP  
Chief Justice  
25 October 2016

## Annexure A

# **HARMONISED EXPERT WITNESS CODE OF CONDUCT<sup>3</sup>**

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### **APPLICATION OF CODE**

1. This Code of Conduct applies to any expert witness engaged or appointed:
  - (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings; or
  - (b) to give opinion evidence in proceedings or proposed proceedings.

### **GENERAL DUTIES TO THE COURT**

2. An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the Court impartially on matters relevant to the area of expertise of the witness.

### **CONTENT OF REPORT**

3. Every report prepared by an expert witness for use in Court shall clearly state the opinion or opinions of the expert and shall state, specify or provide:
  - (a) the name and address of the expert;
  - (b) an acknowledgment that the expert has read this code and agrees to be bound by it;
  - (c) the qualifications of the expert to prepare the report;
  - (d) the assumptions and material facts on which each opinion expressed in the report is based [a letter of instructions may be annexed];
  - (e) the reasons for and any literature or other materials utilised in support of such opinion;
  - (f) (if applicable) that a particular question, issue or matter falls outside the expert's field of expertise;
  - (g) any examinations, tests or other investigations on which the expert has relied, identifying the person who carried them out and that person's qualifications;
  - (h) the extent to which any opinion which the expert has expressed involves the

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<sup>3</sup> Approved by the Council of Chief Justices' Rules Harmonisation Committee



acceptance of another person's opinion, the identification of that other person and the opinion expressed by that other person;

- (i) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report), and that no matters of significance which the expert regards as relevant have, to the knowledge of the expert, been withheld from the Court;
- (j) any qualifications on an opinion expressed in the report without which the report is or may be incomplete or inaccurate;
- (k) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason; and
- (l) where the report is lengthy or complex, a brief summary of the report at the beginning of the report.

#### **SUPPLEMENTARY REPORT FOLLOWING CHANGE OF OPINION**

- 4. Where an expert witness has provided to a party (or that party's legal representative) a report for use in Court, and the expert thereafter changes his or her opinion on a material matter, the expert shall forthwith provide to the party (or that party's legal representative) a supplementary report which shall state, specify or provide the information referred to in paragraphs (a), (d), (e), (g), (h), (i), (j), (k) and (l) of clause 3 of this code and, if applicable, paragraph (f) of that clause.
- 5. In any subsequent report (whether prepared in accordance with clause 4 or not) the expert may refer to material contained in the earlier report without repeating it.

#### **DUTY TO COMPLY WITH THE COURT'S DIRECTIONS**

- 6. If directed to do so by the Court, an expert witness shall:
  - (a) confer with any other expert witness;
  - (b) provide the Court with a joint-report specifying (as the case requires) matters agreed and matters not agreed and the reasons for the experts not agreeing; and
  - (c) abide in a timely way by any direction of the Court.

#### **CONFERENCE OF EXPERTS**

- 7. Each expert witness shall:
  - (a) exercise his or her independent judgment in relation to every conference in

which the expert participates pursuant to a direction of the Court and in relation to each report thereafter provided, and shall not act on any instruction or request to withhold or avoid agreement; and

- (b) endeavour to reach agreement with the other expert witness (or witnesses) on any issue in dispute between them, or failing agreement, endeavour to identify and clarify the basis of disagreement on the issues which are in dispute.

## ANNEXURE B

# CONCURRENT EXPERT EVIDENCE GUIDELINES

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### APPLICATION OF THE COURT'S GUIDELINES

1. The Court's Concurrent Expert Evidence Guidelines ("**Concurrent Evidence Guidelines**") are intended to inform parties, practitioners and experts of the Court's general approach to concurrent expert evidence, the circumstances in which the Court might consider expert witnesses giving evidence concurrently and, if so, the procedures by which their evidence may be taken.

### OBJECTIVES OF CONCURRENT EXPERT EVIDENCE TECHNIQUE

2. The use of concurrent evidence for the giving of expert evidence at hearings as a case management technique<sup>4</sup> will be utilised by the Court in appropriate circumstances (see r 23.15 of the *Federal Court Rules 2011* (Cth)). Not all cases will suit the process. For instance, in some patent cases, where the entire case revolves around conflicts within fields of expertise, concurrent evidence may not assist a judge. However, patent cases should not be excluded from concurrent expert evidence processes.
3. In many cases the use of concurrent expert evidence is a technique that can reduce the partisan or confrontational nature of conventional hearing processes and minimises the risk that experts become "opposing experts" rather than independent experts assisting the Court. It can elicit more precise and accurate expert evidence with greater input and assistance from the experts themselves.
4. When properly and flexibly applied, with efficiency and discipline during the hearing process, the technique may also allow the experts to more effectively focus on the critical points of disagreement between them, identify or resolve those issues more quickly, and narrow the issues in dispute. This can also allow for the key evidence to be given at the same time (rather than being spread across many days of hearing); permit the judge to assess an expert more readily, whilst allowing each party a genuine opportunity to put and test expert evidence. This can reduce the chance of the experts, lawyers and the judge misunderstanding the opinions being expressed by the experts.
5. It is essential that such a process has the full cooperation and support of all of the individuals involved, including the experts and counsel involved in the questioning

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<sup>4</sup> Also known as the "hot tub" or as "expert panels".

process. Without that cooperation and support the process may fail in its objectives and even hinder the case management process.

## **CASE MANAGEMENT**

6. Parties should expect that, the Court will give careful consideration to whether concurrent evidence is appropriate in circumstances where there is more than one expert witness having the same expertise who is to give evidence on the same or related topics. Whether experts should give evidence concurrently is a matter for the Court, and will depend on the circumstances of each individual case, including the character of the proceeding, the nature of the expert evidence, and the views of the parties.
7. Although this consideration may take place at any time, including the commencement of the hearing, if not raised earlier, parties should raise the issue of concurrent evidence at the first appropriate case management hearing, and no later than any pre-trial case management hearing, so that orders can be made in advance, if necessary. To that end, prior to the hearing at which expert evidence may be given concurrently, parties and their lawyers should confer and give general consideration as to:
  - (a) the agenda;
  - (b) the order and manner in which questions will be asked; and
  - (c) whether cross-examination will take place within the context of the concurrent evidence or after its conclusion.
8. At the same time, and before any hearing date is fixed, the identity of all experts proposed to be called and their areas of expertise is to be notified to the Court by all parties.
9. The lack of any concurrent evidence orders does not mean that the Court will not consider using concurrent evidence without prior notice to the parties, if appropriate.

## **CONFERENCE OF EXPERTS & JOINT-REPORT OR LIST OF ISSUES**

10. The process of giving concurrent evidence at hearings may be assisted by the preparation of a joint-report or list of issues prepared as part of a conference of experts.
11. Parties should expect that, where concurrent evidence is appropriate, the Court may make orders requiring a conference of experts to take place or for documents such as a joint-report to be prepared to facilitate the concurrent expert evidence process at a

hearing (see Part 7 of the Expert Evidence Practice Note).

### **PROCEDURE AT HEARING**

12. Concurrent expert evidence may be taken at any convenient time during the hearing, although it will often occur at the conclusion of both parties' lay evidence.
13. At the hearing itself, the way in which concurrent expert evidence is taken must be applied flexibly and having regard to the characteristics of the case and the nature of the evidence to be given.
14. Without intending to be prescriptive of the procedure, parties should expect that, when evidence is given by experts in concurrent session:
  - (a) the judge will explain to the experts the procedure that will be followed and that the nature of the process may be different to their previous experiences of giving expert evidence;
  - (b) the experts will be grouped and called to give evidence together in their respective fields of expertise;
  - (c) the experts will take the oath or affirmation together, as appropriate;
  - (d) the experts will sit together with convenient access to their materials for their ease of reference, either in the witness box or in some other location in the courtroom, including (if necessary) at the bar table;
  - (e) each expert may be given the opportunity to provide a summary overview of their current opinions and explain what they consider to be the principal issues of disagreement between the experts, as they see them, in their own words;
  - (f) the judge will guide the process by which evidence is given, including, where appropriate:
    - (i) using any joint-report or list of issues as a guide for all the experts to be asked questions by the judge and counsel, about each issue on an issue-by-issue basis;
    - (ii) ensuring that each expert is given an adequate opportunity to deal with each issue and the exposition given by other experts including, where considered appropriate, each expert asking questions of other experts or supplementing the evidence given by other experts;
    - (iii) inviting legal representatives to identify the topics upon which they will cross-examine;

- (iv) ensuring that legal representatives have an adequate opportunity to ask all experts questions about each issue. Legal representatives may also seek responses or contributions from one or more experts in response to the evidence given by a different expert; and
  - (v) allowing the experts an opportunity to summarise their views at the end of the process where opinions may have been changed or clarifications are needed.
15. The fact that the experts may have been provided with a list of issues for consideration does not confine the scope of any cross-examination of any expert. The process of cross-examination remains subject to the overall control of the judge.
  16. The concurrent session should allow for a sensible and orderly series of exchanges between expert and expert, and between expert and lawyer. Where appropriate, the judge may allow for more traditional cross-examination to be pursued by a legal representative on a particular issue exclusively with one expert. Where that occurs, other experts may be asked to comment on the evidence given.
  17. Where any issue involves only one expert, the party wishing to ask questions about that issue should let the judge know in advance so that consideration can be given to whether arrangements should be made for that issue to be dealt with after the completion of the concurrent session. Otherwise, as far as practicable, questions (including in the form of cross-examination) will usually be dealt with in the concurrent session.
  18. Throughout the concurrent evidence process the judge will ensure that the process is fair and effective (for the parties and the experts), balanced (including not permitting one expert to overwhelm or overshadow any other expert), and does not become a protracted or inefficient process.